

IN THE CLAIMS:

Claims 1, 4 and 5 have been amended herein. All of the pending claims 1 through 5 are presented, pursuant to 37 C.F.R. §§ 1.121(c)(1)(i) and 1.121(c)(3), in clean form below. Please enter these claims as amended. Also attached is a marked-up version of the claims amended herein pursuant to 37 C.F.R. § 1.121(c)(1)(ii).

1. (Amended) A method of packaging a semiconductor device assembly having a semiconductor die having a plurality of bond pads thereon and having a portion thereof attached to a portion of a lead frame having a plurality of leads, at least one bond pad of the plurality of bond pads of the semiconductor die connected to at least one lead of the plurality of leads of the lead frame, comprising:
forming a heat sink having a top surface and a bottom surface, each top and bottom surface having peripheral edges therearound;
forming a substantially continuously formed protruding edge from the heat sink at the peripheral edges of the bottom surface of the heat sink;
positioning the top surface of the heat sink adjacent to the semiconductor die having the plurality of bond pads thereon;
placing the heat sink and semiconductor die in a transfer molding apparatus having the protruding edge formed at the peripheral edges of the bottom surface of the heat sink in contact with a portion of the transfer molding apparatus; and
removing a dam from adjacent to a surface of the heat sink following an encapsulation of the semiconductor die and the heat sink.

2. The method of claim 1, wherein the protruding edge is removed with heat.

3. The method of claim 1, wherein the protruding edge is removed during an electrolytic deflash cycle.

4. (Amended) A method of packaging a semiconductor device assembly having a semiconductor die having a plurality of bond pads thereon and having a portion thereof attached to a portion of a lead frame having a plurality of leads, at least one bond pad of the plurality of bond pads of the semiconductor die connected to at least one lead of the plurality of leads of the lead frame, comprising:

forming a dam adjacent a periphery of a heat sink from material of the heat sink, the dam protruding from edge portions of the periphery of the heat sink;
positioning the heat sink adjacent to a semiconductor die;
positioning the dam, heat sink, and semiconductor die in a transfer molding apparatus having the dam contacting a portion of the transfer molding apparatus;
encapsulating the semiconductor die and heat sink in molding material in the transfer molding apparatus; and
removing the dam from adjacent to a surface of the heat sink following the encapsulation of the semiconductor die and the heat sink in the molding material in the transfer molding apparatus.

5. (Amended) A method of packaging a semiconductor device assembly having a semiconductor die having a plurality of bond pads thereon and having a portion thereof attached to a portion of a lead frame having a plurality of leads, at least one bond pad of the plurality of bond pads of the semiconductor die connected to at least one lead of the plurality of leads of the lead frame, comprising:

providing a heat sink;
forming a dam adjacent a periphery of the heat sink from a material thereof, the dam configured as a protruding edge portion of the periphery of the heat sink;
positioning the heat sink adjacent to the semiconductor die;
positioning the lead frame, the semiconductor die, the heat sink, and the dam in a transfer molding apparatus, the dam contacting a portion of the transfer molding apparatus;

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encapsulating a portion of the portion of the lead frame, the semiconductor die, and the heat sink in molding material in the transfer molding apparatus; and removing the dam from adjacent to a surface of the heat sink following the encapsulation of the semiconductor die and the heat sink in the molding material in the transfer molding apparatus.

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